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Swine—Keeping of in the District of Honolulu. (Reg. Bd. of H., Aug. 14, 1913.

SECTION 1. No person or corporation shall keep or allow to be kept upon premises in his or its possession within the district of Honolulu any swine without first securing a written permit from the board of health. Such permit shall expire on the 1st day of July annually and be subject to the conditions thereof.

SEC. 2. The owner, lessee, tenant, or occupant of any stall, stable, or apartment in which swine are kept or of any place in which manure, stable refuse, or any liquid discharge of such animals shall collect or accumulate shall cause such manure, stable refuse, or liquid to be promptly and properly removed therefrom, and shall at all times keep, or cause to be kept, such stall, stable, or apartment, and the drains, yard, and appurtenances thereof, in a clean and sanitary condition, so that no offensive odor shall be allowed to escape therefrom.

SEC. 3. Floors, assorting boards, feeding troughs, gutters, and leaders shall be made of suitable solid hardwood planks, concrete, or other impervious material, so laid that they may be flushed with water and with proper grades and channels to carry off all drainage. False or loose boards are forbidden unless laid on concrete or other impervious material and of such size that the same may be readily removed.

SEC. 4. Dung pits, refuse bins, swill boilers, and other like appurtenances shall be fly proof and of such construction that no odor shall escape therefrom.

SEC. 5. It shall be unlawful to feed hogs any uncooked slaughterhouse offal or the uncooked flesh of dead animals.

SEC. 6. No person or persons shall collect or keep any hog or hogs in any pen or otherwise confine any hog or hogs within the district of Honolulu, so that the same shall become noisome or offensive to other persons residing in the neighborhood.

INDIANA.

School Buildings—Construction and Sanitary Regulation. (Reg. Bd. of H., Dec. 17, 1913.)

1. *Site.*—Schoolhouse sites shall be convenient of approach from the public road or street. An elevation shall be obtained, if possible, but if the site must necessarily be low or even level surface drainage and subsoil drainage, and filling if needed, shall be provided.

(*a*) *Surroundings.*—The site shall not be nearer than 500 feet to any of the following conditions, to wit: Swampy ground, body of stagnant water, cemetery, slaughterhouse, fertilizer-reduction plant, any business or manufacturing establishment which engenders noxious odors or vapors, or anything which pollutes the surrounding atmosphere, as gases, smoke, or dust, or any place of industry where disturbing noises prevail.

(*b*) *Area.*—No school site shall have an area less than 1 acre, and, wherever possible, shall have an area of 2 acres or more. The school playground shall have an area of at least 30 square feet for each pupil. The playground shall be well drained, well graveled, free from depressions in which water can stand, and shall be equipped with such apparatus as will encourage and afford wholesome exercise and recreation. For the purpose of inculcating a love of the beautiful and imparting practical knowledge concerning the growth and care of plant life, that part of all school grounds not occupied by buildings and playground should be laid out according to an approved plan in lawn and garden with shrubs and shade trees.

2. *School building.*—No school building shall be constructed more than two stories above the basement.

(*a*) *Basement.*—In every building in which the lower or basement floor is below the surface of the ground surrounding such building, and is used in part or as a whole for heating and ventilating apparatus, such lower floor shall be considered the basement story of such building.

(*b*) *Size of classrooms.*—No classroom shall exceed 24 feet in width. The ceiling shall be not less than 12 feet nor more than 14 feet in height. Wood ceilings shall not be used. Where metal ceilings are used, they shall be of a plain stamped panel design, with profile not greater than seven-eighths inch and with accurate joints securely nailed at every nailing point. Metal ceilings shall be put upon wood strips or sheathing of not less than seven-eighths inch thickness, with insulating paper of not less than one-fourth inch thickness between the joists and such strips or sheathing. The metal cove and cornice shall be of plain design and shall be securely nailed to cornice block or ground of wood at intervals not greater than 4 feet. The cornice block or ground shall be securely fastened to the side wall and ceiling. The lower part of such metal cornice shall be connected to the side wall by means of wooden ground or mold in such way as to give a smooth finish and prevent the collection and retention of dust and dirt. Metal ceilings shall be painted a neutral color with flat coat paint and with particular attention given to filling of joints. Wall paper shall not be used in any school building.

(*c*) *Corridors and doorways.*—Main corridors, passageways, hallways, and exit doorways shall be equivalent in width to at least 24 inches for each 100, or fractional part thereof, of seating capacity of such portions of the building as will be required to use the same for exit. No corridor, passageway, or hallway, shall be less than 5 feet in width, and no doorway shall be less than 3 feet in width except where two or more doors, each 2 feet 8 inches or more in width, are grouped together.

(*d*) *Floors.*—The floors of toilet rooms, basement rooms not used for class purposes, and inclosures for plumbing fixtures and steam fittings within the building shall be of nonabsorbent waterproof material with nonabsorbent waterproof base not less than 6 inches high, and nonabsorbent waterproof sanitary cove. Wherever possible, the floors of laboratory rooms, domestic-science rooms, and corridors, shall be of nonabsorbent waterproof material, with nonabsorbent waterproof base not less than 6 inches high, and nonabsorbent waterproof sanitary cove. Cement floors shall be constructed with a mixture of iron compound or other equally efficient material, or shall be covered with cement enamel in order to render such floors waterproof and dust proof. Mattings or other floor coverings shall not be used in any part of the school building except in superintendent's or principal's office, rest rooms, libraries, and teachers' rooms, or upon inclines when same are used in the building.

(*e*) *Plastering.*—The plastering at all angles, in all corners and at all windows and door jambs, shall be so rounded and coved as to prevent the collection and retention of dust.

(*f*) *Equipment rooms.*—Furnace, boiler, and storage rooms shall be of fireproof construction. No storage room closet shall be placed under any stairway. No boiler, furnace, heater, or heating coils shall be located directly beneath any entrance, exit, corridor, or stairway. The ceiling floor immediately above all furnaces, boilers, or heaters, shall be of fireproof construction, and in old buildings shall be rendered and maintained fireproof.

(*g*) *Entrance and exit doors.*—Entrance and exit doors shall be equipped with automatic opening device and with hardware of such kind as to be always unlockable from within. Revolving doors shall not be used. All doors shall open outward, and where double doors or storm houses are provided, the outer doors shall be devoid of fastenings but shall be held in place by spring hinges. All entrance and exit doors shall be unlocked at all times when school is in session.

(*h*) *Interior wood finish.*—All interior wood finish shall be as small as possible, and shall be so constructed and finished as to minimize or prevent the collection and retention of dust and dirt.

(*i*) *Location.*—No outside wall of any school building shall be nearer than 5 feet to any lot line of adjoining property.

(*j*) *Roof.*—The roof of all school buildings shall be constructed of slate or other equally efficient waterproof, noncombustible material.

3. *Lighting.*—No window sash shall have more than four lights and the tops of all windows shall be square. Whenever the proximity of other buildings or a portion of the same building interferes with the proper lighting of a classroom, the light shall be properly projected and diffused by the use of prism glass. When artificial lighting by means of electricity or gas is used, the lights shall be near the ceiling, and the light shall be properly projected and diffused by either indirect or semi-indirect system of lighting. In case of electricity being used for light, all wiring shall be installed in iron conduit and all wires, fittings, materials, and construction work shall conform to the rules and requirements of the National Electrical Code, as recommended by the National Fire Protection Association for such class of wiring. Any system of artificial lighting aside from electricity as provided above shall be approved by the Indiana State fire marshal.

4. *Heating and ventilation.*—Heating and ventilating systems of all kinds shall take fresh air from outside the school building, evenly diffuse the same throughout each schoolroom during school session, and withdraw foul air from said schoolroom at a minimum rate of 1,800 cubic feet per hour for each 225 cubic feet of said schoolroom space, regardless of outside atmospheric conditions.

(*a*) *Test.*—The State board of health will test the efficiency of ventilating systems in school buildings as follows: With jacketed heaters and gravity systems, the anemometer test shall be made over the foul-air vents in classrooms. With plenum systems, the anemometer test shall be made over the fresh-air inlet of the fresh-air room and the fresh-air inlet in classrooms. With a double system of mechanical ventilation, the anemometer test shall be made at the fresh-air intake and at the foul-air vents in classrooms. In every test five readings shall be taken, one near each corner and one at the center of the air opening to be tested. A deduction of 5 per cent shall be made for a grill or register in the air opening. All tests shall be based upon the seating capacity of classrooms at 225 cubic feet of space per pupil. Before such test shall be made by the State board of health, the heating and ventilating contractor shall be given notice of the time when such test is to be made. The State board of health will make such tests upon the written request of trustees, school boards, boards of school commissioners, county, city, or State superintendents, or upon petition of ten or more patrons of the school.

5. *Stoves and heaters.*—In small buildings where furnace or steam heat with fresh air from outside the building is impracticable, stoves or floor furnaces of suitable size and construction surrounded by heat-proof metal jacket with open top, with fresh-air intake from outside the building and foul-air flue shall be installed. The heater shall be of sufficient capacity to secure and maintain a uniform temperature of 70° F. in zero weather.

6. *Jacket.*—The jacket shall be made of heavy galvanized iron, black iron, or other material equally durable, and shall be lined with sheet asbestos. There shall be an inner jacket of tin or other metal equally efficient with air space of not less than three-fourths inch between the jackets. The jacket shall stand not less than 3 inches from the stove or floor furnace, and may extend either to the tray, floor shield, or other foundation upon which the heater rests, or the lower 12 inches of the jacket may be open. If the jacket extends to the floor shield, the lower 12 inches of the jacket may have sliding or hinged doors to open and permit of recirculation of air when necessary to heat the room quickly. The fresh-air duct shall be provided with damper with operating device in plain view and easily accessible from inside the room.

7. *Dimensions of flues, fresh-air ducts, and vent pipes in jacketed heaters.*—(*a*) Following is a table giving the size of flue, fresh-air duct, and vent pipe to be used in a system having the same flue for smoke and foul air:

Table I.

	Contents of room in cubical feet.		
	8,000 and less.	8,000 to 12,000	12,000 to 16,000
Cross-sectional area of chimney not less than, square inches	144	256	400
Diameter of vent pipe not less than............inches	12	16	20
Free area of foul-air vent not less than...square inches	144	256	400
Cross-sectional area of fresh air duct not less than, square inches	144	256	400

(*b*) Dimensions of flues, foul-air flues and fresh-air ducts to be used in connection with a system having separate flues for smoke and foul air.

Table II.

	Contents of room in cubical feet.		
	8,000 or less.	8,000 to 12,000	12,000 to 16,000
	Square inches.	*Square inches.*	*Square inches.*
Cross-sectional area of smoke flue not less than	64	96	144
Cross-sectional area of vent flue not less than	189	525	651
Free area of foul-air vent not less than	189	525	651
Cross-sectional area of fresh-air duct not less than	144	256	400

Where an old building contains a flue vent larger than that required for new buildings, the vent opening may be reduced to the minimim area required for new buildings.

8. *Smoke pipe.*—No smoke-pipe connection between the heater and the smoke flue shall be more than 5 feet long, measuring horizontally. No metal tile or other smoke pipe shall extend through the walls, ceiling, or roof in any manner, except as prescribed in these rules.

9. *Chimney and ventilating flue.*—Each room in which a jacketed heater is installed shall be provided with a masonry stack, either with single flue for smoke and foul air, or with separate flues for the same. Double-flue chimneys shall not be used unless the same are entirely within the building with no wall exposed to the outside. Double-flue chimneys shall be built of masonry with one compartment for smoke and one for ventilation, with the dividing wall not more than 4 inches thick, and with the inside of all walls plumb, true, and finished to a smooth finish.

(*a*) *Metal stacks.*—In lieu of a dividing wall, a metal stack of not less than No. 16 gauge, noncorroding metal, or stack of glazed tile of not less than 1 inch thickness may be constructed within the masonry chimney. Such stack may be used for smoke, shall rest on the foundation of the chimney for support, shall be held in place by metal side braces, and the smoke shall enter such stack at the usual smoke-pipe height.

(*b*) *Mixing chamber.*—Where the same flue is used for both smoke and foul air, a suitable drum or mixing chamber shall be used for bringing the smoke and foul air together, in order to insure proper draft in both foul-air flue or pipe, and in smoke pipe. In no case shall the cross-sectional area of the mixing chamber or of the space surrounding the smoke pipe in the drum, be less than the cross-sectional area of the flue. The foul air may be taken out through a metal pipe extending from within 6 inches of the floor and connected with the smoke pipe through the drum before entering the flue, or may be taken directly through register or registers in the base of the flue.

(*c*) *Register.*—The bottom of register faces shall be at the floor level, and the free area of the register, after deducting 5 per cent for grill, shall equal the cross-sectional area of the flue. Where the chimney projects into the room, registers may be placed on two sides in order to reduce the height of the registers. Clean outs, accessible from the room, shall be provided for all flues and drums. A suitable damper with operating device in plain view and easily accessible from the room shall be provided so that vent flues can be shut off when not in use.

(*d*) Wherever possible, the heater and chimney shall be located at the same end of the room as the entrance door. In buildings of more than one room, when the same flue is used for both smoke and foul air, each room shall be provided with a separate chimney. When separate compartments for smoke and foul air are used, each room shall be provided with separate vent flue, but the same smoke flue may be used to accommodate not more than two rooms, and such flue shall have a cross-sectional area of not less than 144 square inches.

10. *Systems permissible in portable buildings or in old buildings about to be abandoned.*—A system with a metal smoke pipe placed within a metal vent flue extending above the highest point of the roof may be permitted in portable buildings, and in old one-story buildings when said old building is to be used for a period of not more than two years after such system is installed. The smoke pipe used in such system shall be of extra heavy material; the elbow inside the vent flue shall be of cast iron; the smoke pipe shall be supported from the vent flue by steel supports placed at intervals of not more than 3 feet; the vent flue shall be provided with an asbestos-lined collar, with at least 1 inch air space between the collar and vent flue where the same passes through the roof or ceiling, and shall be properly flashed and made water-tight. Complete plans and specifications covering such system shall be submitted to and approved by the State board of health before the same is installed.

11. *Portable buildings.*—Portable frame buildings, not larger than 28 by 36 feet and not more than one story in height, may be erected, provided the plans and location for such temporary building shall be approved by the State board of health, and provided such temporary building shall not be maintained on any one lot or block for a longer period than two years.

12. *Plenum and gravity systems of ventilation.*—Where plenum systems of ventilation are used, the warm-air flues shall have a cross-sectional area of not less than 10 square inches for each occupant of the room, based on the seating capacity of the room. The vent flues shall have a cross-sectional area of not less than 10 square inches for each occupant of the room, based on the seating capacity of the room.

Where gravity systems of ventilation are used, the warm-air flues and vent flues shall each have a cross-sectional area of not less than 16 square inches for each occupant of the room, based on the seating capacity of the room.

(*a*) *Location of flues.*—In school buildings or more than one room with plenum or gravity ventilation the warm-air flues and vent flues shall be on or in the inside walls of the building, and the warm-air inlets and the foul-air vents shall be on the same side of the room. Warm-air inlets shall be located not less than 5 feet from the floor. Wire screens of No. 8 gauge wire with 1½-inch mesh may be used to cover the warm-air inlets, except in rooms of such size and shape as to require the air to be deflected, in which case diffusers may be used. Foul-air vents shall be at the floor level, shall have a free area of not less than the cross-sectional area of the flue, and shall be clear of all obstructions. Grills or registers shall not be used in foul-air vents except with jacketed heaters. A chain damper, or other approved device, in plain view and easily accessible from inside the room shall be used to close the vent when not in use. The damper shall be kept open at all times when school is in session. The floor and baseboard shall be carried into the bottom of vent flue, and that part of the flue exposed to view shall be plastered and finished the same as the walls of the room.

13. *Reheated air.*—No vitiated air shall be reheated except as provided under jacketed heaters and floor furnaces, or except where an air washing system has been installed, and such system of rewashing and reheating air has been approved by the State board of health.

14. *Foot warmers.*—So-called foot warmers, if used, shall be placed in the walls of the main corridors at the floor level. No warm-air register or pedestal register shall be placed in the floor in any school building.

15. *Air supply.*—(*a*) In gravity or plenum systems of ventilation, except where wall openings directly into schoolrooms are used, the air supply shall be taken from outside the building through a window or windows into a room in the basement especially constructed for this purpose, with tight-fitting door, impervious and smooth walls, floor, and ceiling, to be known as the fresh-air room. The window or windows in the outer wall of the fresh-air room shall have a free area not less than the combined cross-sectional area of all the warm-air supply ducts, and shall be covered with a substantial wire screen of not more than one-half inch mesh, and shall be kept free from obstruction. This fresh-air room shall be kept clean and free from obstruction at all times. In no case shall basement air be permitted to enter the air supply.

(*b*) In gravity systems where wall openings directly [sic] into the rooms are used, the fresh-air supply shall be from outside the building, and the combined free cross-sectional area of fresh-air intakes shall be not less than the cross-sectional area of foul-air flue. Such fresh-air intakes shall be free from obstruction and shall be provided with an approved damper with operating device in plain view and easily accessible from inside the room. The damper shall be kept open at all times when school is in session. The outside openings of such fresh-air intakes shall be covered with substantial wire screen of not more than one-half inch mesh and shall be provided with a suitable hood or elbow to protect from rain or snow.

(*c*) With jacketed heaters the fresh-air supply shall be from outside the building, and the fresh-air duct shall be provided with an approved damper with operating device in plain view and easily accessible from inside the room.

(*d*) No fresh-air opening or foul-air vent in connection with any system of ventilation shall be closed at any time when school is in session.

(*e*) No part of the machinery, shafting, or pulley arrangement, of heating and ventilating apparatus, or waterworks system, shall be connected to the joist or flooring above.

(*f*) All flues shall start upon substantial foundation at the ground, shall extend through the attic and above the highest point of the roof, and, when necessary, shall be equipped with proper cowls to prevent down draft. Flues shall be built the same size the entire height, and all inside walls shall be plumb, true, and finished to a smooth finish. The outside walls of all chimneys shall be not less than 8 inches thick.

16. *Cloakrooms and wardrobes.*—Where cloakrooms or wardrobes are not separated from classrooms, or are separated only by skeleton doors, they shall be considered as part of the classroom, and the foul air vent shall be placed in the cloakroom or wardrobes. Where cloakrooms or wardrobes are separated from classrooms, they shall be separately heated and ventilated the same as classrooms. Where suitable cloakrooms can not be provided, sanitary steel lockers may be placed in the corridors or classrooms, provided that such lockers will not in any way become an obstruction to the free passageway of the corridor.

17. *Ventilation in laboratory and domestic-science rooms.*—Gas plates, gas stoves, and burners used in domestic science or laboratory work shall be provided with suitable ventilating hoods connected with a vertical vent flue. This flue shall be separate from any other vent flue and the updraft in such flue shall be positive at all times.

18. *Temperature regulation.*—Whenever practical, temperature regulation shall be used. Whatever system of ventilation is used, the windows in all schoolrooms shall be opened whenever practical at recess periods and before the opening of the afternoon school session in order to thoroughly change the air of the rooms.

19. *Basement air.*—In every stairway leading from the first floor to the basement there shall be a swinging door with spring hinges to prevent basement air from entering the classrooms and corridors above, except where basement rooms are finished, have close-fitting doors, and are properly warmed and ventilated.

20. *Water supply.*—Open or dug wells, or springs, shall not be used. No well shall be within 100 feet of any privy, cesspool, or other known possible source of contamination. The water supply of every school shall be tested by the State board of health from sample submitted by the school trustee, school board, or the local health officer. whenever, in the opinion of the local health officer, such test shall be necessary, or whenever the State board of health shall require such test.

(*a*) *Drinking fountains.*—Where pressure water supply is available, sanitary drinking fountains shall be installed. Such drinking fountains shall be of the bubbling stream type and shall have vitreous china cup with two or more port holes so the user must drink from the bubbling stream. The construction of the sanitary head shall be such that when the finger is placed over the nozzle the water passes to the waste through the ports provided for that purpose.

21. *Lavatories.*—Every schoolhouse shall be provided with substantial enameled-iron sinks or washbasins, soap, and sanitary paper or individual towels. Common or roller towels shall not be used. Lavatories shall be of cast iron porcelain enameled, or vitreous china. Where wall trap lavatory with back is used, it must be all in one piece. All traps shall be cast brass with cleanout with ground joints on sewer side of fixture.

22. *Floor drains.*—In all school buildings where a sewer outlet is practicable, the toilet rooms, washrooms, boiler and furnace rooms shall be provided with floor drains connected with such sewer outlet. These floor drains shall be conveniently located with the floor sloping to the drain from all parts of the room. Whenever domestic science rooms and laboratories have waterproof floors, and sewer outlet is practicable, these rooms shall also be provided with floor drains as above. In boys' toilet rooms the urinal trough may be used as the floor drain.

23. *Toilets* —(*a*) *Flush toilets.*—Where a sewer system or pressure water supply is available or practicable, water-closets to the number of one seat for each 15 females, or fractional part thereof, and one seat for each 25 males, or fractional part thereof, and one urinal stall for each 15 males, or fractional part thereof, shall be installed. In estimating the number of closets to be installed, the occupants shall be divided as follows: 40 per cent males and 60 per cent females Where the syphon type of closet is used, it shall be provided with seat-action flush with working parts of sufficient strength to withstand rough usage. Closets having any working parts of valve or any metal parts inside of bowl shall not be used. All receptacles used for water-closets and urinals, except as otherwise provided in these rules, shall be vitrified earthenware, hard natural stone, glass, or cast iron porcelain enameled on the inside. If cast iron is used, it shall be enameled or painted on the outside with at least three coats of nonabsorbent and noncorrosive paint.

(*b*) *Latrines.*—Where latrines are used, they shall be provided with cast-iron automatic dumping tanks to hold not less than 10 gallons of water and arranged so the closets will be flushed at intervals of not longer than 15 minutes. The entire volume of water shall be delivered at once at one end of the range, passing through the entire length of the same, and discharging at the other end through the sewer trap. The bottom of the latrine shall have a depression under the center of each seat at least 1½ inches deep to retain water at all times.

(*c*) *Ventilation of toilets.*—There shall be a ventilating opening back of each individual water-closet bowl and each seat of the latrine of not less than 10 square inches free area, and each urinal stall shall have a ventilating opening both top and bottom of not less than 8 square inches free area. These toilet ventilating openings shall be connected to a vertical brick vent flue extending above the highest point of the roof. The updraft in this flue shall be positive at all times and shall be maintained either by aspiration or by use of an exhaust fan. If aspiration is used, the cross-sectional area of this toilet vent flue shall be not less than 360 square inches. If an exhaust fan is used, the cross-sectional area of this toilet vent flue shall be equal to the combined area of the toilet ventilating openings connected with such flue. Whenever proper ventilation of the toilet room is not provided by means of the closet system installed, the toilet room shall be properly ventilated by means of a separate vent flue.

(*d*) *Equipment of toilets.*—All closets shall be equipped with wooden seat top lids. All urinals shall be constructed of materials impervious to moisture and that will not corrode, and shall be divided into stalls not less than 16 inches nor more than 20 inches in width. Long hopper water-closets and similar appliances shall not hereafter be installed in any school building. When toilets are located in the basement, they shall be separated as to sexes by solid, sound-proof wall and shall be approached by separate stairways and separate passageways. Boys' toilets shall be clearly marked "Boys' toilet" and girls' toilets shall be clearly marked "Girls' toilet."

24. *Indoor crematory closet.*—Whenever a sewer system or pressure water supply is not available or practicable, an indoor crematory sanitary closet system may be provided with the same number of seats and urinal stalls as specified for water-closets. If an indoor crematory sanitary closet is used, the vault of same shall be constructed of brick with cement floor, properly drained. The vault heater, gratings, floors, and stools shall be made of cast iron. The urinals shall be constructed of enameled iron, vitrified earthenware, slate, marble or glass, and shall have a ventilating opening both at top and bottom of not less than 8 square inches free area. The seat shall be made either of wood or aluminum, and if wood seats are used the underside of the same shall be lined with metal. The lids of the seats shall be provided with a self-closing device. Such closets shall be connected to a vent flue or stack with a free cross-sectional area of not less than 60 square inches for each closet seat and each stall of urinal, to which stack shall be connected a stack heater. Fire must be kept in both the stack heater and the vault heater at all times when school is in session, in order to maintain a positive updraft in the stack and to destroy the contents of the vault.

25. *Dry closets.*—So-called dry closets shall not hereafter be used in any school building.

26. *Outdoor sanitary closets.*—If an outdoor sanitary closet system is used, the vault receptacle and floor of such closet shall be of cement construction. Dry loamy earth, wood ashes, sifted coal ashes, or slaked lime shall be thrown in the vault receptacle at least once each day when school is in session, and the contents of the vault shall be removed at least twice in each school year. All outdoor closets shall be kept effectually screened and protected against flies. The interior walls of such closets shall be sided with corrugated metal sheathing, painted a drab color, and sanded while the paint is still wet. In the boys' closet a urinal of metal, cement, or other nonabsorbent materials with stalls shall be constructed and made to discharge through a proper drain into the soil away from the closet and not nearer than 100 feet to any source of water supply.

27. *Seating.*—Class and study rooms shall have aisles on all wall sides. In primary rooms center aisles shall be not less than 17 inches wide, with wall aisles not less than 28 inches wide. In grade rooms center aisles shall be not less than 18 inches wide; with wall aisles not less than 30 inches wide. In high-school rooms center aisles shall be not less than 20 inches wide, with wall aisles not less than 36 inches wide. All groups of seats shall be so arranged as to have an aisle on either side.

28. *Stairways.*—Stairways shall be equivalent in width to at least 18 inches for each 100 of seating capacity, classrooms and assembly rooms included. No stairway shall be less than 5 feet in width in clear except where the more than two stairways lead down from any floor, in which case stairways 4 feet in width in the clear may be counted in the total width of stairs required. Stairways shall be constructed with straight runs, changes in direction being made by landing, the width of which shall be not less than the width of the stairs. Stairways shall be constructed with uni-

form rise and tread. The riser shall be not more than 6½ inches and the tread not less than 11 inches, which dimensions shall be from tread to tread and from riser to riser. No door shall open immediately upon a stairway, but a landing at least the width of the door shall be provided between such door and stairway. To overcome any difference in floor levels requiring less than three risers, gradients shall be employed with not more than 1 inch rise in each 12 inches of run. Stairways, corridors, and all passageways leading to exits shall be kept free from obstruction at all times and shall not be used for storage or any other purpose except ingress and egress, except as herein provided for sanitary lockers. The walls connecting entrance and exit doorways to stairways shall extend directly from the edge of doorway to stairway with a slight curve instead of an angle and corner.

29. *Inclines.*—Whenever possible, and especially in large school buildings, the stairway should be superseded by the incline. "In practice we make the three-foot child take the same steps as the six-foot man. This is both unjust and unwise. The incline permits the short and the tall, the weak and the strong, to take such steps as best suit the individual pupil." The incline is more serviceable, safer, and better in every way than the stairway.

30. *Foundation.*—Foundations shall not be laid on filled or made ground or on any soil containing a mixture of organic matter.

31. *Humidity of air.*—Whenever practicable a system of air washing shall be installed in connection with plenum and gravity systems of ventilation in order that the air may be properly humidified before being introduced into the schoolroom. Where the air supply is direct to the schoolroom, through wall openings, each radiator shall be provided with a pan or receptacle to hold not less than 1 gallon, and so placed as to be constantly warmed and in plain view. Water shall be kept in such receptacle at all times when school is in session and the heating system is in use. Jacketed heaters and floor furnaces shall be provided with a pan or receptacle to hold not less than 3 gallons, and so placed as to be constantly warmed and in plain view. Water shall be kept in such receptacles at all times when school is in session and the heater is in use.

32. *Cleaning and sweeping.*—Whenever practicable, vacuum cleaning equipment shall be installed in school buildings. Dry sweeping and dusting is prohibited, and no sweeping shall be permitted in corridors, schoolrooms, or stairways while school is in session. Floor oil, some form of dust-down or sawdust treated with oil should be used on floors before sweeping.

33. *Directions for management.*—Whenever a system of heating and ventilation is installed, the heating contractor shall furnish full and complete printed instructions for the proper management and care of such system to the superintendent, principal, or teacher of the school, and shall in addition post a copy of such instructions in a prominent place in the boiler or furnace room for the instruction of the janitor.

34. *Power.*—Where an electric motor is installed for power purposes the wiring shall be installed in iron conduit and the wiring, fittings, materials, and construction work shall conform to the rules and requirements of the National Electrical Code. Where gasoline engines are installed for power purposes they must be located in a room of fireproof construction and must have the muffler or exhaust pot located at least 50 feet from the outside wall of the building, and the installation of such gasoline engine must conform to the rules and regulations of the State fire marshal. The storage of inflammable liquids for gasoline engines must conform to the rules and regulations of the State fire marshal for the use, handling, and storage of inflammable liquids.

35. *Heating.*—The heating apparatus and appliances not otherwise provided for in these rules must conform to the rules and regulations of the State fire marshal.

36. *Fire protection.*—On each floor, including basement, there shall be placed at least one 3-gallon chemical fire extinguisher at a readily accessible point. In large

buildings where the area of each floor exceeds 6,000 square feet there shall be placed on each floor a 3-gallon chemical extinguisher for each 3,000 square feet of floor area. In cities having fire departments provided with a central fire alarm system, there shall be installed in a readily accessible place on the first floor of each school building a fire alarm box connected directly with fire headquarters. This box shall be supplied with a key protected by a glass door.

37. Stereopticons and motion picture machines when installed must conform to the rules and regulations of the State fire marshal.

38. Architects shall furnish heating and ventilating contractors full and detailed plans of all parts of the building in any way connected with the installation of heating and ventilating apparatus. Architects, sanitary engineers and heating and ventilating engineers shall certify by affidavit indorsed on all plans and specifications submitted, that such plans and specifications comply with the Indiana sanitary schoolhouse law, and with the rules of the Indiana State Board of Health.

EQUIPMENT AND MAINTENANCE OF SCHOOL HACKS.

1. The term school hack as used herein shall include all wagons, hacks and other vehicles of any kind whatsoever, used for public transportation of pupils to and from school.

2. School hacks shall be substantially built, painted throughout, well lighted, warmed and ventilated, clean and sanitary, kept in good repair and shall be operated and maintained with strict regard to the influence of such school hacks upon the health, morals and safety of the pupils thus transported.

3. All school hacks shall be swept and dusted thoroughly at least once each day, and in addition shall be specially cleaned and disinfected before being put in use at the beginning of school, and again at the time of Christmas vacation. Such special cleaning shall consist of first sweeping and dusting the interior, then scrubbing the floor, washing the windows and all interior wood work, including the seats, and then disinfecting the interior according to the rules of the State board of health.

4. The number of pupils to be transported in any school hack shall be limited to the normal seating capacity as provided in the construction of such hack. Every pupil must be provided with a comfortable seat without crowding.

5. All school hacks shall be so constructed and arranged that the pupils shall be in plain view of the driver.

6. Proper foot rests shall be provided for the use of smaller pupils when the seats are too high to allow the feet to rest comfortably on the floor.

7. No person shall be employed as driver of a school hack who is not able-bodied, not of normal mind, or who is addicted to the use of intoxicants or habit-forming drugs, or who has tuberculosis, or syphilis, or other communicable disease, or who is uncleanly in person or clothing, or immoral in habit. The use of tobacco or alcohol in any form in or on a school hack by pupils or driver is prohibited.

8. Both school trustees and the drivers of school hacks shall be held responsible for the sanitary maintenance of such hacks and for the moral behavior of pupils while occupants of such hacks.

Morbidity Reports—Quarantine. (Reg. Bd. of H., Dec. 17, 1913.)

Rule 10 of the rules of the Indiana State Board of Health duly passed as appear in the minutes of the board shall be amended to read as follows, to wit:

RULE 10. *Infectious diseases.*—The infectious and contagious diseases which shall be immediately reported to the health officer having jurisdiction and which shall be quarantined are hereby declared to be: Yellow fever, smallpox, cholera, diphtheria, membranous croup, scarlet fever, measles, epidemic poliomyelitis, cerebrospinal fever, typhus fever, bubonic plague, leprosy, pulmonary consumption, typhoid fever,